

SEPTEMBER 1984



BULLETIN



**ACCIDENTS:
A GOOSE EGG**



SCORE '84

THIS SAFETY BULLETIN CONTAINS SAFETY ARTICLES ON A VARIETY OF SUBJECTS, FATAL ACCIDENT ABSTRACTS, STUDIES, POSTERS AND OTHER SAFETY INFORMATION FOR PRESENTATION TO GROUPS OF MINE AND PLANT WORKERS.

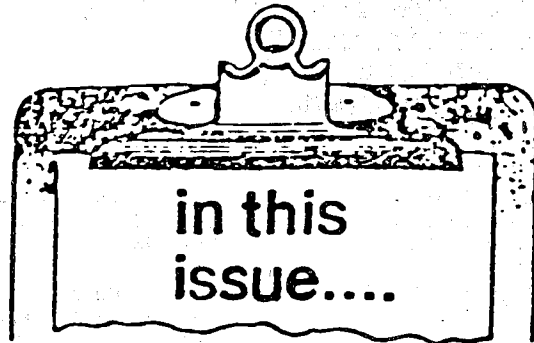
AS GROUP SPOKESPERSON, LEADER OR SUPERVISOR, YOU PLAY AN IMPORTANT ROLE IN THE ACCIDENT PREVENTION PROGRAM FOR YOUR COMPANY. THE WAY YOU TALK, THINK AND ACT ABOUT SAFETY DETERMINES, TO A GREAT EXTENT, THE ATTITUDE YOUR COWORKERS WILL HAVE ABOUT SAFETY.

THIS MATERIAL, FUNDED BY THE MINE SAFETY AND HEALTH ADMINISTRATION, U.S. DEPARTMENT OF LABOR, IS PROVIDED FREE AS A BASIS FOR DISCUSSION AT ON-THE-JOB SAFETY MEETINGS. IT MAY BE USED AS IS OR TAILORED TO FIT LOCAL CONDITIONS IN ANY MANNER THAT IS APPROPRIATE.

PLEASE USE THE ENCLOSED GREEN MEETING REPORT FORM TO RECORD YOUR SAFETY MEETINGS AND RETURN TO THE HOLMES SAFETY ASSOCIATION, POSTAGE-PAID.

"This publication has been reviewed and approved for distribution to the mining public by the office of the Assistant Secretary for Mine Safety and Health."

HOLMES SAFETY ASSOCIATION



September 1984

1. Safety Topic, "Welcome New Members"
2. Poster, "School's Open"
3. Proclamations, "Holmes Safety Association Day, June 21, 1984--
Colorado and Wyoming"
4. Announcements, "Report--Wyoming Mining Association and Holmes
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5. Abstract, "Report of Electrocution Accident"
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- Announcement, "Council News--Competition"
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14. Holmes Safety Association, Constitution and Objectives
15. The Last Word
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September 1984

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC



HBM Construction Co.
HBM Construction
Texarkana, TX

Wilkinson Kaolin Assoc.
Wilkinson Kaolin
Gordon, GA

D M & L Coal Co., Inc.
D M & L Coal
Phelps, KY

C. J. Rust Const. Co.
Golden Eagle
Morgantown, KY

C. J. Rust Const. Co.
Golden Oak
Jetson, KY

C. J. Rust Const. Co.
Golden R. Prep. Plant
Cromwell, KY

H. R. Wood Coal Co. Inc.
Fern Valley
Morgantown, KY

Cortez Gold Mines
Cortez Gold Mines
Cortez, NV

Westhoff, Inc.
Westhoff
Coalgate, OK

Pendleton Const.
Pendleton Const.
Wytheville, VA

Woodway Stone Co.
Woodway
Pennington Gap, VA

HCM Coal Co., Inc.
HCM
Nellis, WV

Pioneer Fuel Corp.
Pioneer Fuel
Crab Orchard, WV

MR. C Coal Co., Inc.
MR. C Coal
Phelps, KY

Albert Barker Digging Svc.
Albert Barker
Davis, IL

Charles F. Lee & Sons Inc.
Charles F. Lee & Sons
Flora, IL

Holle Bldg. Service Co.
Holle Bldg. Service
Onion, IL

McClure Quarries, Inc.
McClure Quarries
Tennessee, IL

Duck Island S & G Co.
Duck Island S & G
Canton, IL

Peoria Brick & Tile Co.
Clay Pit No. 3
E. Peoria, IL

The Fordyce Co.
Fordyce
Victoria, TX

Pratt Mining Co.
No. 1 Mine-Pratt Mining
Coal Fork, WV

Hill Enterprises Inc.
Clark Mine
Dixie, WV

Charles F. Meyer & Sons
Charles F. Meyer & Sons
Lothian, MD

Campbell S & G Co.
Campbell S & G
Odenton, MD

Four Leaf Coal Co. Inc.
No. 1 Surface Mine
Marion, TN

MSHA
Duluth SD
Duluth, MN

MSHA
Duluth FO
Duluth, MN

Alaska Gold Co.
Alaska
Nome, AK

#2 Atlas
#2 Atlas
Toney Fork, WV

Valstad Quarry Inc.
Valstad Qy (Hillview)
Carrollton, IL

Rogers Energy
Seminole Mine
Loogootee, IN

Delphi Limestone Inc.
Delphi
Delphi, IN

Acco Stone Co.
Acco Stone
Blacksburg, VA

Texas Industries Inc.
Texas Industries
Bridgeport, TX

Liter's Quarry
Jeffersonville Plant
Jeffersonville, IN

Lockhart Mining Co.
Lockhart Mining
Kimper, KY

Field More Enterprises
Field More Enterprises
Ransom, KY

Diamond Coal Co.
Diamond Coal
Ransom, KY

Dog Fork Coal Co.
Dog Fork Coal
Phelps, KY

Tojo Mining
Tojo Mining
Phelps, KY

Liter's Quarry Inc.
Litters's Qy Lockport Pl
Lockport, KY

Sterling Energy Inc.
Sterling Energy
Lafollette, TN

Valstad Quarry Inc.
Valstad Quarry (Kane)
Carrollton, IL

Valstad Quarry Inc.
Valstad Quarry (Fieldon)
Carrollton, IL

Rider's Sand & Ready Mix
Rider
Delphi, IN

Quality Aggregates Inc.
Hilt
LaFayette, IN

Rock Industries, Inc.
Rock Industries
Peru, IN

DaRay Mining, Inc.
DaRay Mining
Phelps, KY

Valley Minerals, Inc.
Valley Minerals
Valley Furnace, WV

A A & W Coals, Inc.
A A & W Coals Mine #13
Phelps, KY



Acme Limestone Co.
Acme Limestone
Fort Springs, WV

Black Panther Energy Res.
Black Panther No. 1
Phelps, KY

Tulsa Rock Co.
Tulsa
Tulsa, OK

MSHA
MSHA-Rolla MO Field Office
Rolla, MO

Whole Nine Yards Coal Co.
Whole Nine Yards Coal
West Terre Haute, IN

Rogers Group, Inc.
Commercial
Cannelburg, IN

Arkansas Lightweight Agg.
Arkansas Lightweight
West Memphis, AR

NERCO Minerals Co.
Victor
Victor, CO

Spray Sand & Gravel Inc.
Spray
Seymour, IN

C. L. Mining, Inc.
C. L. No. 1 Mine
Rowe, VA

Niagara Stone Division
Niagara Quarry
Niagara, NY

Kingsley Mines, Inc.
Kingsley Mine
West Louisville, KY

Dan Gernatt Gravel Prods.
Gernatt
Collins, NY

Barton Mines Corp.
Barton
North Creek, NY

Porter's Sand -n- Gravel
Porter's
Waverly, NY

Courtois S & G Co.
Courtois S & G
Pawtucket, RI

3M Company
3M
Belle Mead, NJ

Wm. S. Williams Const.
Wm. S. Williams Const.
Gardiner, ME

Peoria Blacktop Inc.
Peoria Blacktop
Peoria, IL

Rensselaer Stone Co.
Rensselaer Stone
Rensselaer, IN

Hanley Const.
Ziller Pit & Mill
Pontiac, IL

Johnson-Stewart-Johnson
Johnson-Stewart-Johnson
Mesa, AZ

Phoenix Sand & Rock
Phoenix Sand & Rock
Mesa, AZ

Tilcon Delaware Inc.
Tilcon
Dover, DE

Lakeville S & G Corp.
Lakeville S & G
Lakeville, MA

Pine Creek Rock Co.
Pine Creek
Polo, IL

Fort Union Coal Mine
Fort Union
Gillette, WY

Marsan Corporation
Mountaineer Mine
Cannelton, WV

Jen Mining Corp.
Queen Shoals Mine #1
Clendenin, WV

Denart Coal Co. Inc.
No. 2 Mine
Laing, WV

Ray Coal
Ray Coal
Williamsburg, KY

M & M Coal
M & M Coal
Frakes, KY

Jerah Mining Co. Inc.
Jerah Mining
Kensee Hollow, KY

Rigsby & Barnard Qy
Rigsby & Barnard Qy
Cave-in-Rock, IL

Conakay Resources Inc.
Conakay Resources
Pikeville, KY

Reese Elkhorn Coal Co.
Reese Elkhorn Coal
Shelbiana, KY

Wilco Mining Co. Inc.
Wilco Mining
Shelbiana, KY

Robinson's Mining
Robinson Mining
Lisbon, OH

Cardinal Stone Co.
Cardinal Stone
Galax VA

Natural Tunnel Stone Co.
Natural Tunnel
Clinchport, VA

Mason County S & G Co.
Letart
Letart, WV

Fredonia Valley Quarries
Fredonia Valley Quarries
Fredonia, KY

Tresca Bros. S & G Inc.
Tresca Bros. S & G
Millis, MA

Southeastern Const. Co.
Southeastern Const.
Lakeville, MA

Fillmore Industries
Fill-More
Loudon, NH

Little Ferry Asphalt Corp.
Little Ferry Asphalt
Little Ferry, NJ

Casy Smokeless Coal Corp.
Casy Smokeless Coal
Stacy, VA

Ash Grove Cement West Inc.
Ash Grove Cement West
Seattle, WA

M. C. Lininger & Sons Inc.
Lininger
Medford, OR

Carpentersville S & G Inc.
Carpentersville S & G
Carpentersville, NJ

Bridgewater S & G Co.
Bridgewater
Bridgewater, MA

HOLMES SAFETY ASSOCIATION



**STOP.
LOOK.
LISTEN...
AGAIN.**

SCHOOL'S OPEN

STATE OF COLORADO

EXECUTIVE CHAMBERS



Richard D. Lamm,
Governor

EXECUTIVE ORDER
PROCLAMATION
HOLMES SAFETY ASSOCIATION DAY
June 21, 1984

WHEREAS, on June 21, 1984, the third annual Holmes Safety Association meeting will be held in Jackson, Wyoming; and

WHEREAS, the topic of this meeting is western resources and what the western states and industry are doing for the economy; and

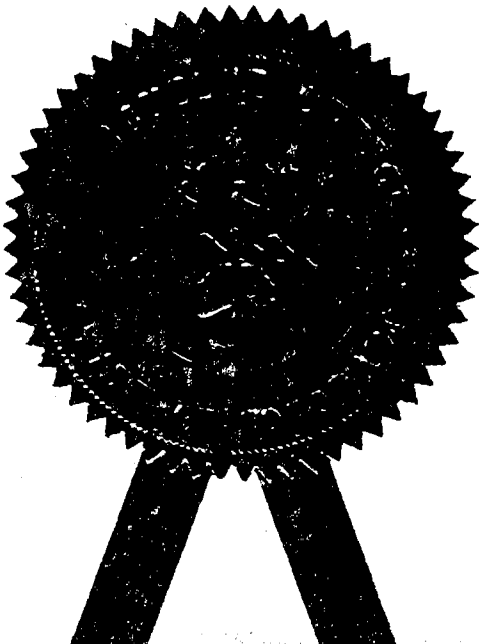
WHEREAS, the national third annual Holmes Safety Association meeting is jointly sponsored by Carbon County Coal, Dravo Coal Corporation, Wyoming Safety Council and the United States Department of Labor, who share the continuing efforts to improve safety and health throughout the mining industry; and

WHEREAS, the purpose of the Western Holmes Safety Association, a non-profit organization, is to promote health and safety throughout the mineral extractive industries;

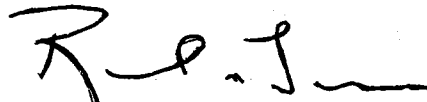
NOW, THEREFORE, I, Richard D. Lamm, Governor of the State of Colorado, do hereby proclaim June 21, 1984, as

HOLMES SAFETY ASSOCIATION DAY

in the State of Colorado.



GIVEN under my hand and the Executive Seal of the State of Colorado, this eighteenth day of June, A.D. 1984.


Richard D. Lamm
Governor

PROCLAMATION

WHEREAS, on June 21, 1984, the Third Annual Holmes Safety Association meeting will be held in Jackson, Wyoming; and

WHEREAS, the topic of this meeting is western resources and what the western states and industry are doing for the economy; and

WHEREAS, the national third annual Holmes Safety Association is jointly sponsored by Carbon County Coal, Dravo Coal Corporation, Wyoming Safety Council, and the United States Department of Labor, who share equally the continuing efforts to improve safety and health throughout the mining industry; and

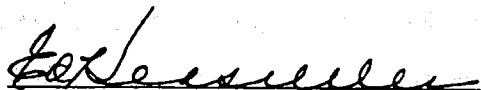
WHEREAS, the sole purpose of the Western Holmes Safety Association, a non-profit organization, is to promote health and safety throughout the mineral extractive industries;

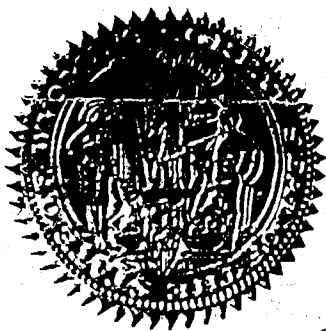
NOW, THEREFORE, I, ED HERSCHLER, Governor of the State of Wyoming, do hereby proclaim June 21, 1984, as

HOLMES SAFETY ASSOCIATION DAY

in Wyoming, and urge appropriate recognition of this observance.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Great Seal of the State of Wyoming to be affixed this sixteenth day of March, 1984.


Governor



ATTEST:


Secretary of State

H.S.A. Day Proclaimed



Gov. Ed Herschler designated June 21 as Holmes Safety Association Day to recognize the third annual Western Holmes Safety Association meeting held at Jackson Lake Lodge in Jackson Hole along with the 29th annual Wyoming Mining Association meeting.

Over 300 representatives from all segments of the mineral extractive industries attended the Wyoming Mining Association and Holmes Safety Association convention at Jackson Lake Lodge, Jackson Hole, Wyoming, June 20-23, 1984.

The Wyoming Mining Association provided a full menu of seminars including sessions on mine safety, Washington reports, federal regulatory reform, history of Wyoming, public relations of the Florida Phosphate Council, public awareness of the mining industry, railroads for Wyoming Coal and presentation of Annual Wyoming mining awards.

The Holmes Safety Association third annual safety meeting commenced on Thursday with proclamations from Governor Ed Herschler of Wyoming and Governor Richard D. Lamm of Colorado, designating June 21, 1984, as Holmes Safety Association Day. The theme of the third annual meeting was "taking a closer look at safety in 1984."

The Holmes Safety Association is made up of all interested parties in the coal, metal/nonmetal mineral extractive, petroleum and allied industries. It includes management, labor, manufacturers and both state and federal enforcement agencies.

The Association serves as a local, district and state clearinghouse to gather and distribute information about causes of all types of accidents and ways to prevent them. Through its headquarters and affiliate state and district councils and local chapters, the Association stimulates continuous and coordinated accident-prevention programs. In cooperation with other safety organizations, it stimulates interest in safety in all fields.

Safety information is gathered from industry, member and nonmember mines, federal and state safety departments, the National Safety Council mining institutes, coal, metal and non/metal operator's safety associations, safety magazines and research in safety conducted by universities and other safety-related literature.

The how and why of accidents enables the chapters and councils to define accident problems and to prepare or advise solutions.

The Association produces a monthly bulletin which contains posters, cartoons, fatal accident abstract reports, and safety topic material for short discussions plus a complete accident-prevention program applicable to any industry or organization. The chapters and councils also issue awards for outstanding injury frequency rates and safety achievements.

The officers and executive body of the Holmes Safety Association thanks the program committee's decision to focus attention on safety on this country's most abundant energy resource--coal--which plays a major role in meeting our nation's energy needs.

The management of Carbon County Coal Company, Steve Lipe, director of safety and John Barton, district manager of Mine Safety and Health Administration produced an outstanding and informative program.

-MORE-

Guest speakers included David A. Zegeer, assistant secretary of labor, MSHA, Arlington, Virginia; Don Hill, corporate safety manager, Peabody Coal Company, St. Louis, Missouri; Terry Harris, assistant attorney general, Wyoming; Pat Ryan, corporate safety director, Amax Coal Corporation, Indianapolis, Indiana; Captain Jim Michaelis, safety and training, Wyoming Highway Patrol; Shelly Kipper, training and development specialist, Wyoming and William H. Hoover, national secretary, Holmes Safety Association, Tucson, Arizona, master of ceremonies.

More than 50 door prizes were awarded. A social hour following the meeting was enjoyed by all in attendance.

News Brief

MINE INSPECTOR'S INSTITUTE OF AMERICA 74TH ANNUAL CONVENTION

William H. Hoover, Holmes Safety Association National Secretary, had the privilege of addressing the National Association of State Mine Inspection Agencies (NASMIA) at Mt. Airy Lodge, Mt. Pocono, Pennsylvania on June 16, 1984.

Secretary Hoover outlined the history, origin, objectives and progress of the Association. After a brief discussion, Chairman Walter Miller, Director, West Virginia Department of Mines, entertained a motion offering the Holmes Safety Association full support of the state inspection agency departments of the NASMIA. The motion was then moved and carried unanimously.

ABSTRACT FROM FATAL ACCIDENT

September 1984

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC



REPORT OF ELECTROCUTION ACCIDENT

GENERAL INFORMATION: A skiptender was fatally injured when he stepped into the shaft sump and came in contact with an electrical-power leakage.

The mine was an underground uranium mine. The mine had two inclines which served as second escapeways. Mining of the ore-bearing rock was accomplished by a random room and pillar method.

The electrical system used was a three-phase delta with a center ground. The power source to the underground mine was a 460-volt cable installed in the manway compartment of the shaft.

DESCRIPTION OF ACCIDENT: There were no eyewitnesses to the accident but evidently, the victim left the shaft station and apparently climbed down into the shaft sump where he contacted an energized cable or equipment.

Although a full explanation of why the victim entered the sump cannot be determined, it can only be surmised that he entered the sump to hand muck rock spillage, or to retrieve a fallen object. A hand shovel was found lying next to the victim.

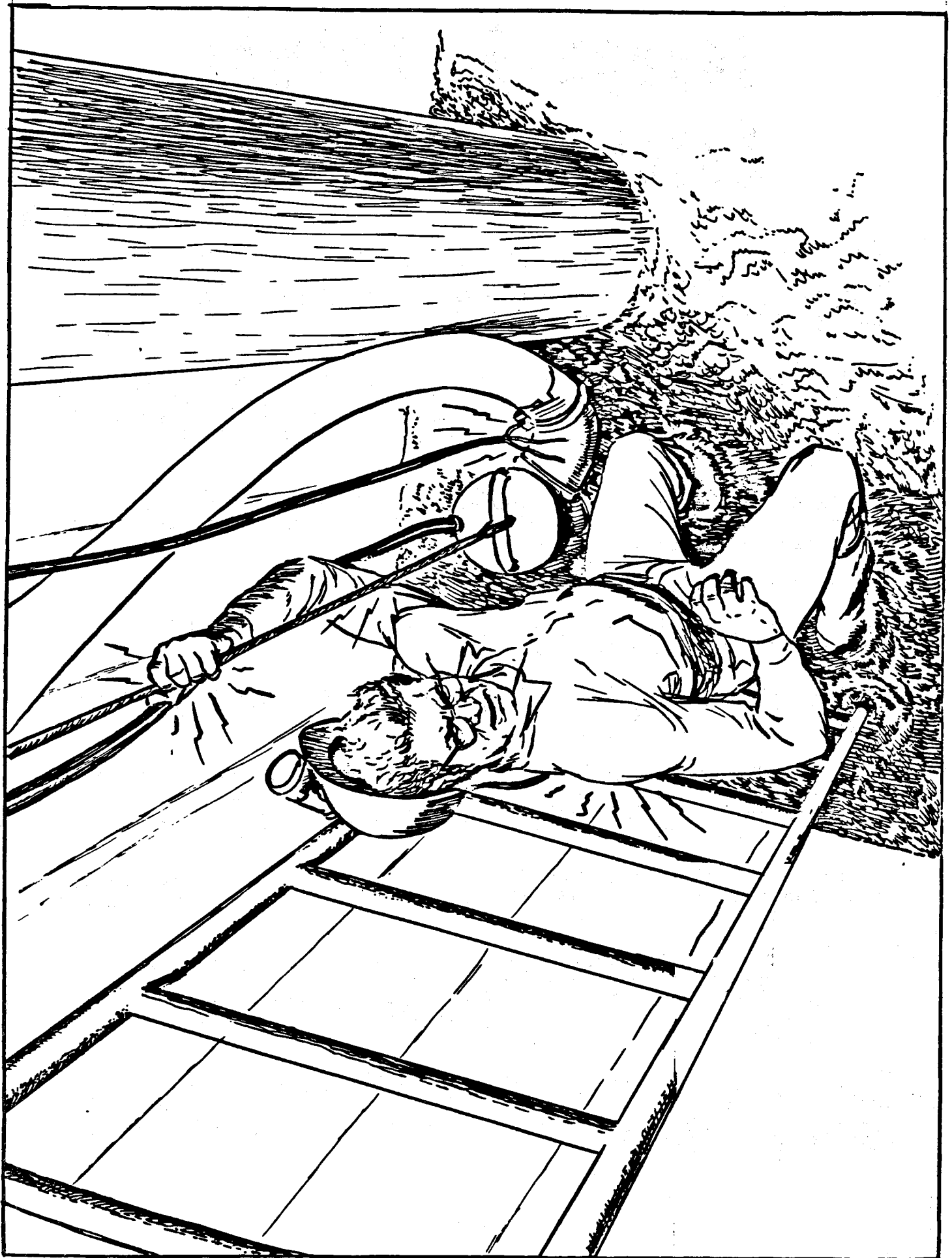
During the accident investigation it was found that the 460-volt cable from the switch box to the Flygt pump had three splices. One of the splices had a phase exposed which had been twisted together and was poorly insulated. The splice with the exposed phase lead was saturated with water.

When the victim came in contact with an energized conductor or energized cable or equipment in the bottom of the sump, a path was made available for the stray current to flow from the wet and bare lead down a low resistant path and to the system ground, via the steel ladder and water in the bottom of the sump.

The investigation indicated that the victim had not received an indoctrination in safety rules and safe work procedures.

CAUSE OF ACCIDENT: The cause of the accident was the poorly constructed splice which exposed an energized phase conductor.

-MORE-



September 1984

Joseph A. Holmes Safety Association



One of the functions of the Joseph A. Holmes Safety Association is to give recognition to everyone with an excellent safety record. This special award is to acknowledge the small operators with 25 employees or less in recognition of their outstanding safety records.

Many safety departments have used the Joseph A. Holmes Safety Association Awards as a means of rewarding their employees for their group and personal contributions to safety. The awards inform the community that industry does care about the welfare of its employees.

The JHSA has revised the present system and developed a reduced number of man-hours so the smaller operations can be recognized for their safety efforts.

Awards are Certificates of Honor.

The following are the criteria and guidelines to follow when applying for this special award:

The minimum man-hours worked without a fatality or permanent total disability, providing the record exceeds six calendar months of operation, are as follows:

100,000 for all underground mining operations, opencut mining, open quarrying, petroleum drilling operations, and other such as plant and surface operations, mills, concentrators, petroleum industry, smelters and reduction works.

The minimum man-hours worked without an injury with lost workdays, providing the record exceeds six calendar months of operations, are as follows:

50,000 for all underground mining operations, open mining, open quarrying, petroleum drilling operations, and other operations such as plant and surface operations, mills, concentrators, petroleum industry, smelters, and reduction works.

The following information is required on all applications for Type C Awards and must be submitted in time to reach the Secretary by February 15. Applications received after February 15 will not be considered for that year.

1. Name and address of the mine, quarry, plant or other mineral extractive operations.
2. Principal product.
3. Name and address of the company and MSHA identification number.
4. Type of operation (U. G., Surface, Preparation Plant, etc.).
5. Name of the supervisor under whose immediate direction the record was accomplished where mention of his name is desired in the award citation. A separate award will not be granted for the official and the company for the same record.
6. The date of the last fatality or permanent total disability if the record is on a no-fatality (including permanent total disability) basis.
7. The date of the last injury with lost workdays if the record is on the basis of injury with lost workdays.
8. The beginning and ending date of the award period (month, day, and year). If the record is a continuous one, close at some recent date such as December 31, or date of submitting record.
9. The average number of employees in the group who achieved the record during period covered.

All Awards

On receipt, the Secretary will process each application, prepare the wording for the awards, and mail a copy of the application to each of the five members of the appropriate awards committee. The Hero or Safety Awards Committee will review each case and submit their recommendations to the Board of Directors and the Council for final action at the annual meeting held in April or May.

Award application forms can be reproduced locally.

For more information, the criteria and guidelines for this award can be obtained by writing to the following address:

Pat Kuhn
Joseph A. Holmes Safety Association
MSHA
4015 Wilson Blvd., BT3, Rm. 510
Arlington, VA 22203
(703) 235-1400

Coal Mine Fatal Alert Bulletin



U.S. Department of Labor
Mine Safety and Health Administration
Coal Mine Safety and Health Activity

September 1984

ASK ABOUT REAP !



Talk to your area
Federal Mine Inspectors.



September 1984



HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

SAFETY AND HYDRAULIC SYSTEMS

Common responses of employees when asked to name an area that requires caution while working in a coal mine are roof and rib, gas detection, electricity, moving equipment, hand tools, etc. Anything missing? Most people overlook hydraulic safety. There is a general lack of respect for the power created in a hydraulic circuit. Let's look at three problem areas.

PINHOLE LEAK OR LEAKING FITTINGS

As little as 75 to 100 psi is all that is required to part the skin and inject contaminated oil into the blood system. Never try and stop a small leak by: a) putting your finger over it, b) wrapping it with tape, c) tightening a leaking hose fitting while pressure is on the machine.

The pressures used on section equipment are about 2000 psi and the longwall shield leg set pressure is 4500 psi. Keep in mind that 1500 psi is sufficient to blow a hole through your hand and 3000 psi in a concentrated stream will sever bone. Good judgment must be used in determining when and how a machine is to be repaired.

LACK OF AWARENESS

Many mechanics and mechanic helpers become statistics because they attempted to work on a piece of equipment and did not know and understand the hydraulic circuit. One common accident is miners working under the boom or head and removing a hydraulic hose, causing the head to fall. Training for the mechanics and learning each hydraulic circuit will help but everyone must use common sense and have respect for the hydraulic system. An example here would be using a nail instead of the proper pin in a staple-lock fitting. That nail may hold two boards together but it was not designed to hold several thousand pounds of pressure on that fitting in the shear.

MISAPPLICATION OF COMPONENTS

The replacement of hydraulic valves, hoses and filter housings, etc., are critical with regard to safety. All components are designed for specific flow and pressure rates. If these components are interchanged you may be creating the potential for the unit to fail under excessive pressure conditions.

The following accident reports identify the increasing number of severe lost-time disabling injuries and fatalities. Please discuss the accidents at your regular on-the-job safety meetings.

-MORE-

ACCIDENT REVIEW

1. A mechanic with 12 years experience was working under an unsupported conveyor boom. When he removed the hose, the boom dropped and crushed the man. (fatal)
2. A maintenance foreman was looking under the head of a miner when the mechanic removed the shear jack hose releasing pressure that was supporting the cutter head. The foreman was crushed. (fatal)
3. A mechanic blocked a machine that was sitting on an angle. When he removed a hose and released the hydraulic pressure, the boom shifted crushing the victim against the rib. Very serious head injuries. (near fatal)
4. A maintenance foreman on a longwall was severely injured when a filter cap blew off under high pressure striking him in the face. The force of impact removed his lower jaw and shattered his face. Findings indicated a low pressure return filter housing had been installed and under high pressure, the housing yielded and the threads stripped. (near fatal)
5. A mechanic was pumping grease into a grease fitting and the fitting would not open up to take the grease. Thinking the small ball on the end of the fitting was stuck, he used his finger nail to push down on it. With 700 psi backed up in the fitting, grease shot out of the fitting under his nail. He received treatment at that time; six months later he lost his hand due to poisoning.
6. On a Saturday maintenance shift a man attempted to hold a return hydraulic hose in place with a staple lock fitting while a cylinder was lowered. He could not find the lock to install and believed that since it was a "low pressure return hose" he could hold it in place. When another man activated the control valve, the hose blew off the victim's hands. The hose slashed across his body and ruptured his stomach, slashing several organs and cut his leg to the bone. (near fatal due to blood loss)
7. Two mechanics were working under a miner cutter head that was supported on a shuttle car. One man went for tools and returned several minutes later to find the shuttle car had drifted allowing the head to drop and crushing the victim. (fatal)
8. In low coal a laborer tried to move a feeder breaker. Encountering problems with the valves sticking, he called a mechanic. Instead of replacing the bad valve bank, the mechanic hooked the tram motor hoses to other valve sections. When the victim started to tram the feeder, it pinned him against the rib crushing him. Investigation revealed a badly contaminated hydraulic system; all the filters were clogged, causing a

by-pass situation and a sliver of metal was caught in the valve spool. The victim could not stop the machine from tramping and in panic did not hit the emergency stop bar. (fatal) NOTE: If you have to beat on a valve handle to move it, replace the valve.

9. A longwall foreman was walking along the panline under the shields toward the tail. A hydraulic hose ruptured with the main force of the oil striking the victim in the face resulting in the loss of sight in one eye. (severe injury)

10. Three men were replacing the right shear jack on a Lee Norse miner. The head was supported on crib blocks. While trying to install one of the pins, a mechanic had his head between the cutter boom and the gathering head. The cribs, on wet bottom, pushed out, allowing the head to drop suddenly. The mechanic died of massive head injuries.

CONCLUSION

Although several of the accidents directly resulted from improper blocking, they were still hydraulic related. There are many employees who have not lost their sight because of wearing safety glasses. These employees could also have very easily become other statistics.

Let's not add to the accident files. Use common sense and work safely around hydraulic operated equipment.

The HSA wishes to thank Thomas Woods, coal mine inspector, Waynesburg, Pennsylvania, District 2, Coal Mine Safety and Health, MSHA for preparing this informative report and for his dedication to mine safety.

Safety Development

Mine Safety Appliances Company says it has developed the first maintenance-free rechargeable battery for cap lamps.

Unlike conventional cap lamp batteries, the new MineSpot ML-200 battery does not require periodic filling with water, MSA said. A sealed 4-volt battery, it runs for 10 hours on a regular charge when used with MSA's MineSpot Cap Lamp. The electrolyte in the battery is contained within the plates and separators, thus preventing leaks.



September 1984



HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977

SECTIONS 303(a) - 303(z) (3)

VENTILATION

This safety topic covers ventilation requirements of the Act, Section 303(a) to 303(z)(3). These standards are contained in Parts 75.300 to 330-1 of the Federal Register.

The law requires that all mines be ventilated by mechanical means. The criteria in the Federal Register spells out in detail how fans should be installed, operated and inspected. We need to recognize that the air current must be controlled at all times relative to volume and direction of flow. The proper sizes, installations and placement of mine fans are important to the continued operations of the mine to control gases, provide oxygen and control dust.

The subsection of law dealing with ventilation requires that air in the mine contain no less than 19.5 per centum oxygen and no more than 0.5 per centum of carbon dioxide and no harmful quantities of other noxious or poisonous gases as well as dust, smoke and explosive fumes. When this requirement is met, the atmosphere can reasonably be considered as not hazardous from both health and explosion standpoint.

Another important requirement in this subsection of the law is the minimum allowable volume of air reaching the last open crosscut in any pair or set of developing entries and the last open crosscut in any pair or set of rooms shall be 9,000 cubic feet a minute and the minimum quantity of air reaching the intake end of a pillar line shall be 9,000 cubic feet a minute. A minimum quantity of 3,000 cubic feet a minute of air shall reach each working face from which coal is being cut, mined, or loaded and any other working face so designated by the district manager in the approved ventilation plan. The velocity of the air current reaching the faces where coal is being cut, mined, or loaded from the working face with mechanical mining equipment shall be 60 feet a minute where exhaust brattice is used, unless a lower velocity is acceptable to the district manager.

The points where air should be measured are noted on the following sketches.

-MORE-

LOCATION OF AIR-MEASURING STATION
VENTILATION OF PILLAR WORK, TWO SPLITS OF AIR

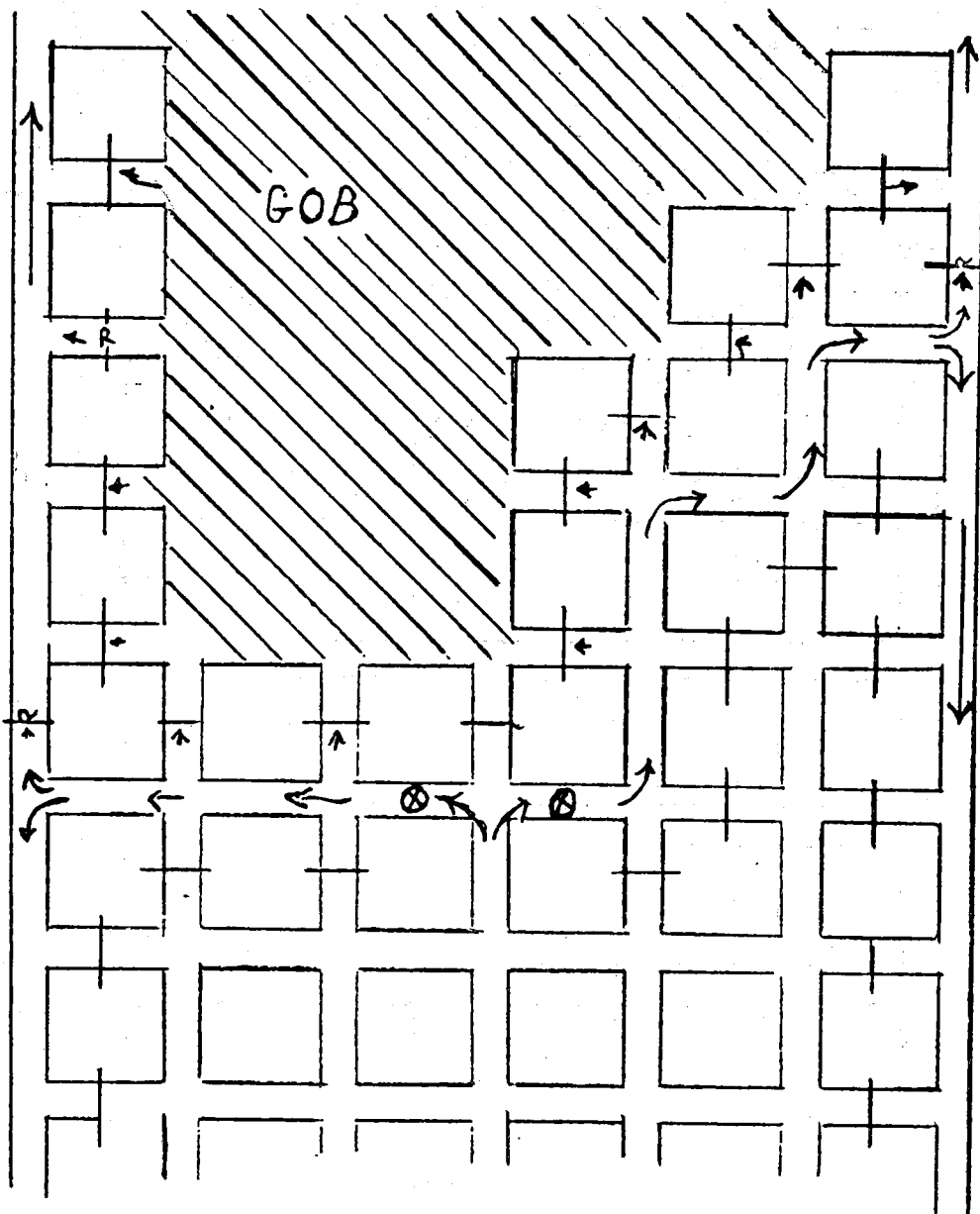
These sketches are to indicate the location of measuring points only. It is not intended to recommend, endorse, or approve this system of mining.

LEGEND:



Direction of airflow

Location of air-measuring stations; minimum quantity of air is 9,000 cu. ft. a minute at each station.

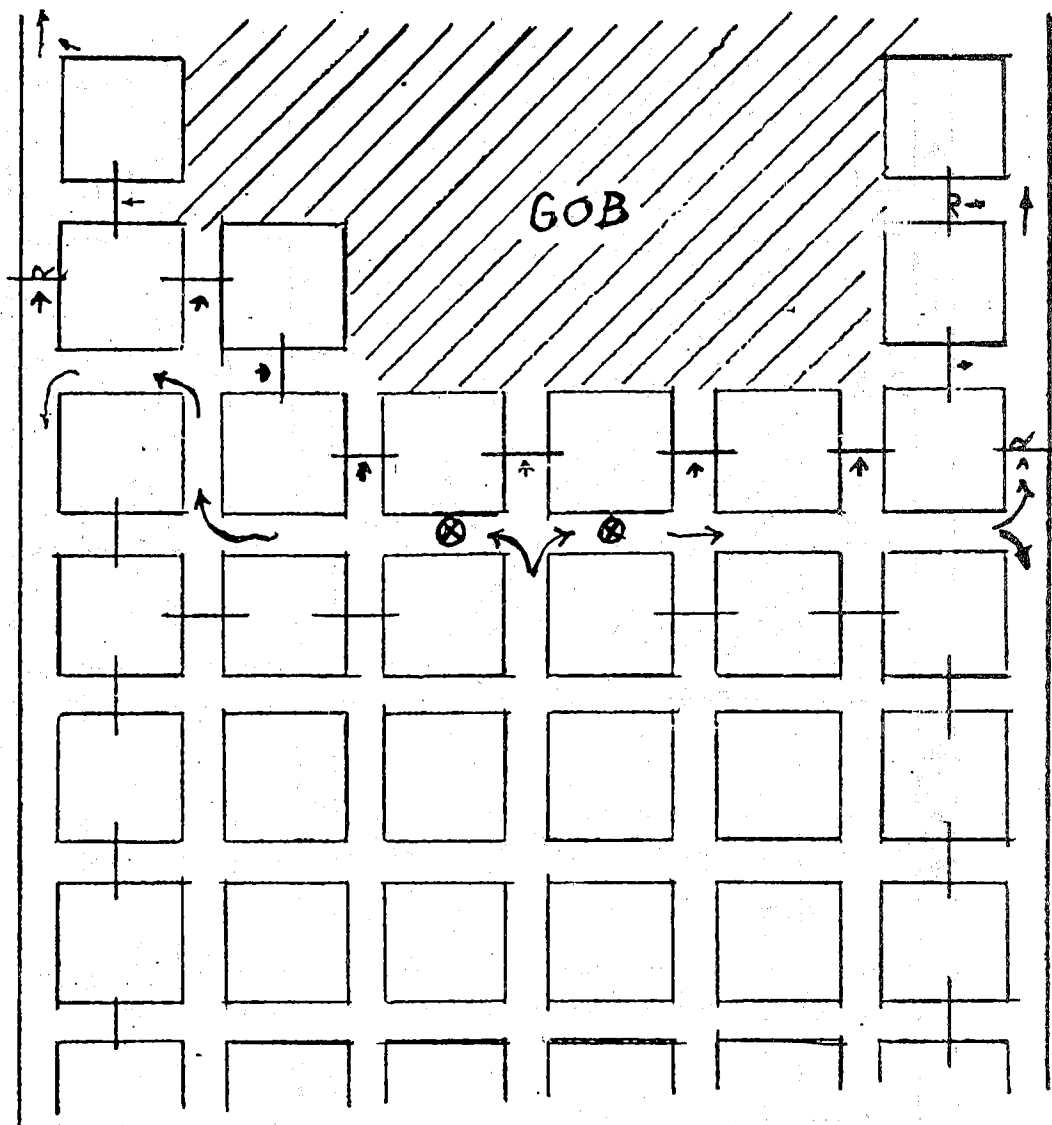


LOCATION OF AIR-MEASURING STATION
VENTILATION OF PILLAR WORK, TWO SPLITS OF AIR

LEGEND:



Direction of airflow
Location of air-measuring stations, minimum quantity of air is 9,000 cfm. at each station.

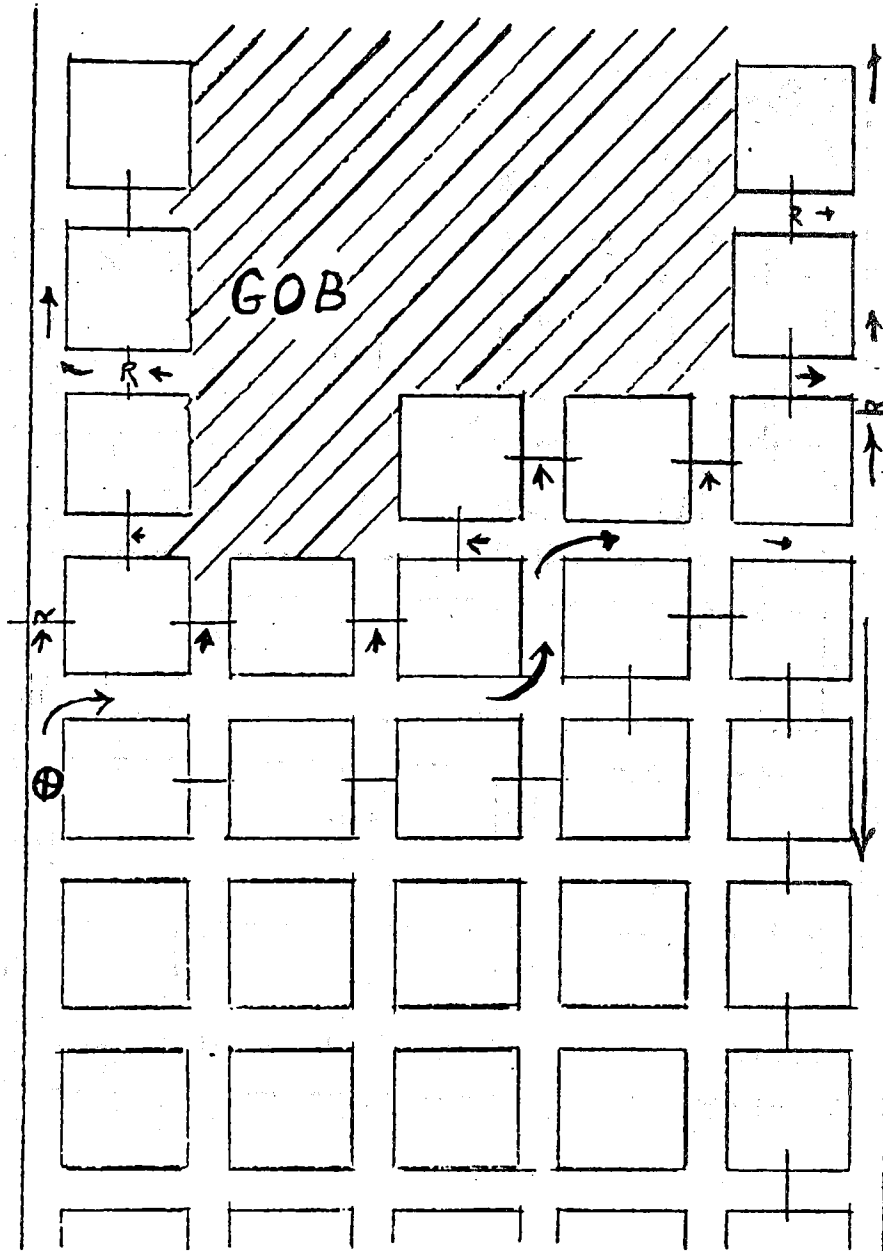


LOCATION OF AIR-MEASURING STATION
VENTILATION OF PILLAR WORK, SINGLE SPLIT OF AIR

LEGEND:



Direction of airflow
Location of air-measuring station; minimum quantity of air is 9,000 cfm.



-MORE-

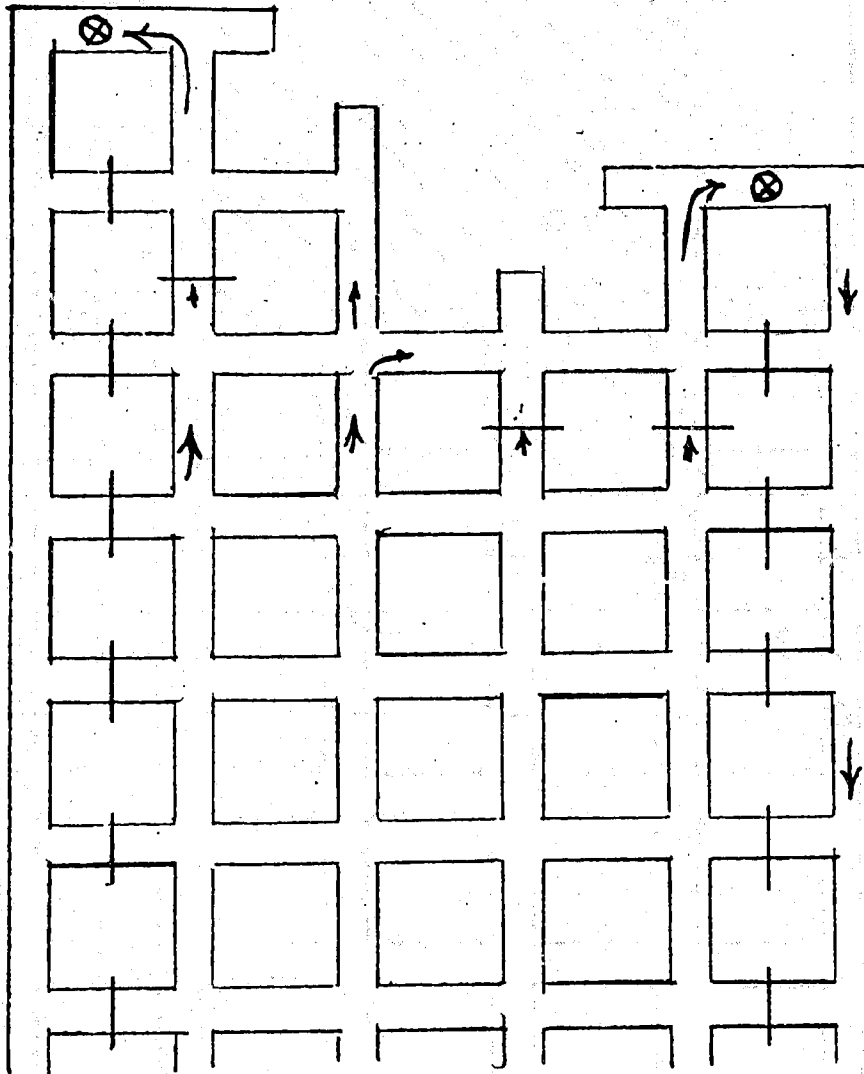
LOCATION OF AIR-MEASURING STATION
VENTILATION OF DEVELOPMENT WORK, TWO SPLITS OF AIR

LEGEND:



Direction of airflow

Location of air-measuring stations; minimum quantity of air is 9,000 cfm at each station.



-MORE-

Coal Miner Ventilation Checklist

September 1984

- BE SURE** methane tests are made
 - before equipment is energized at the face
 - before equipment is trammed to the face
 - immediately before welding, cutting or soldering
 - continuously during welding, cutting or soldering
 - immediately before blasting
 - after blasting
 - at least every 20 minutes (or more often if required) when face equipment is operating
- BE SURE** methane monitor is operating properly - don't ignore or overlook a possible monitor malfunction
- DO NOT** enter any areas which have not been inspected - especially idle or abandoned areas
- REPORT** any noticeable change in air velocity
- BE SURE** line brattice or ventilation tubing is kept within 10 feet of the face (or other required distance)
- REPORT** any damage to ventilation controls (line brattice, check curtains, crushed-out stoppings, etc)
- BE SURE** water sprays and diffuser fans (where installed) are operating properly and in use while cutting coal
- BE SURE** sufficient area is provided behind line curtains (for air movement)
- BE SURE** all air lock doors are kept closed
- DO NOT** change or alter any ventilation controls without proper authorization - leave as found
- BE SURE** auxiliary fan is not in use if main fan is not operating
- DO NOT** use auxiliary fan to remove methane accumulation - ~~use~~ line brattice
- REPORT** unusual hissing sounds (methane gas feeders, ventilation tubing leaks, etc)
- REPORT** strange odors (rotten egg smell, burning sensation in nose/eyes/throat, etc)

Practice Ventilation Awareness



September 1984



HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

ELECTRICAL ACCIDENTS RELATING TO GROUNDING SYSTEMS AT SURFACE AND UNDERGROUND METAL/NONMETAL MINES 1978 - 1983

From 1978 -1983, 80 accidents were reported including five fatalities that were attributed to either a faulty grounding system or the complete lack of a grounding system. The data for this analysis were obtained from accident reports on file at the Health and Safety Analysis Center, Lakewood, Colorado.

ANALYSIS

The accidentally energized frame of a piece of equipment, pipe or other metallic item thought to be at ground potential is a more serious hazard than a bare energized wire. Caution is usually used around a bare wire until it is proven to be energized or not. However, accidentally energized frames and structures usually catch the victim unaware.

Typical of this hazard is described in the report of the fatal accident that occurred when a foreman attempted to ascend an energized metal ladder on a screening plant. Power to the plant was supplied by an ungrounded wye electrical system. One phase conductor to a motor-starter box made contact with the screening plant frame, thereby energizing the frame. The foreman completed the circuit's path to earth when he touched the ladder.

Another fatality occurred when a front-end loader operator completed the circuit between a conveyor and a hopper, each of which had a separate phase-to-ground fault (double line-to-ground). Although both phases were connected to a grounding system, the system was not properly maintained. The two separate ground faults, which normally would have interrupted the system, exposed the victim to a phase-to-phase potential of 480 volts.

In another case, the ungrounded portion of a severed ground wire became energized by a damaged powerline and resulted in a fatality. Failure to detect the faulty continuity of the ground wire contributed to the accident.

Numerous nonfatal accidents have occurred from similar circumstances. A plant foreman was temporarily disabled when he touched a pipeline energized by a shorted power line. A faulty battery charger energized a truck frame resulting in a shock. Injuries resulted from the following: (1) a phase to case short in a grease gun, a grinder, two impact wrenches, two

-MORE-

vibrators and three drills. Each of these accidents occurred because the tools were improperly grounded. (2) Seven motors (three in submergible pumps) incurred phase-to-ground faults and resulted in lost time injuries because of the lack of grounding.

The difference between a fatal and nonfatal accident is dependent upon the amount of current through the victim and the length of time of the current flow. Any of these accidents could have been fatals.

CONCLUSIONS

There were 385 electrical accidents reported from 1978-1983 that resulted in shock, electrocution or electrical burns. Of these, 80 (20.78 percent) involved faulty grounding systems, i.e., high impedance, open ground wires, etc. Since not all incidents involving shock incidents are reportable, it is reasonable to assume that more accidents have occurred from these sources than is indicated by the available data. The ability to eliminate fatalities or reduce the severity of an electrical accident often is limited by the quality of the grounding system and a properly set ground fault device. The data indicate that grounding systems, where used, are not being tested on a regular basis to detect deterioration or a malfunctioning system. If equipment frames, waterlines and grounding wires, normally considered to be grounded, become energized, it can be assumed that the grounding system is not functioning and that periodic system testing has not been done. The lack of a grounding system is more hazardous than one that is deteriorating. Most of the accidents could have been prevented if a well designed grounding system were installed and maintained.

Maintaining the integrity of the ground circuit is of paramount importance for safe operation of electrical equipment. Flexing of cable can result in the grounding wires breaking and ground wires are often accidentally cut by machinery. Deterioration of the grounding system occurs at mechanical tie points where the grounding conductor connects to the earth ground or at equipment frames and conductor enclosures. This is particularly true where the connections are exposed to the mine environment or the weather. For these reasons periodic tests should be performed on the grounding system.

RECOMMENDATIONS

All electrical systems should be equipped with a safety grounding system designed to restrict the voltage level which a person may be subjected to under fault conditions. The faults considered should be line-to-ground faults on grounded systems and double line-to-ground on ungrounded systems. The

installation of ground fault and short-circuit protection will reduce these hazards.

All stationary, portable and mobile equipment should have a safety grounding conductor connected to their frames. Plugs, receptacles and couplers installed on this equipment should allow for separation of power conductors before the grounding conductor. The metal frames of these disconnecting devices should be connected to the grounding conductor or insulated from the cable. The installation of a ground continuity monitor will provide early detection of a discontinuity in the safety grounding wires.

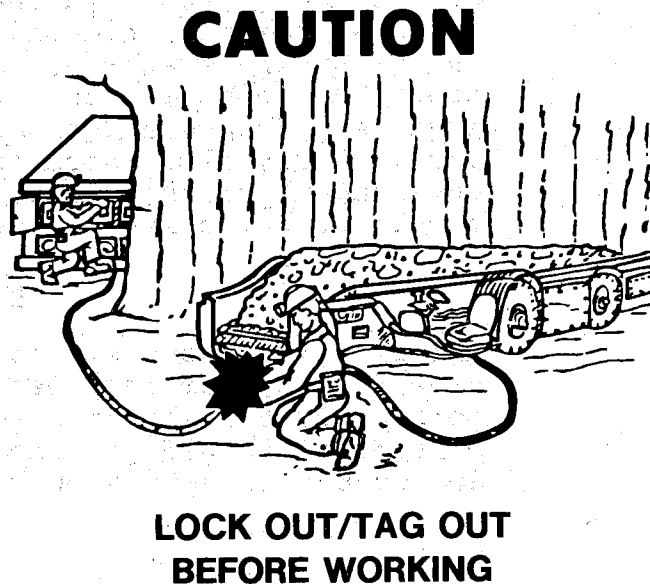
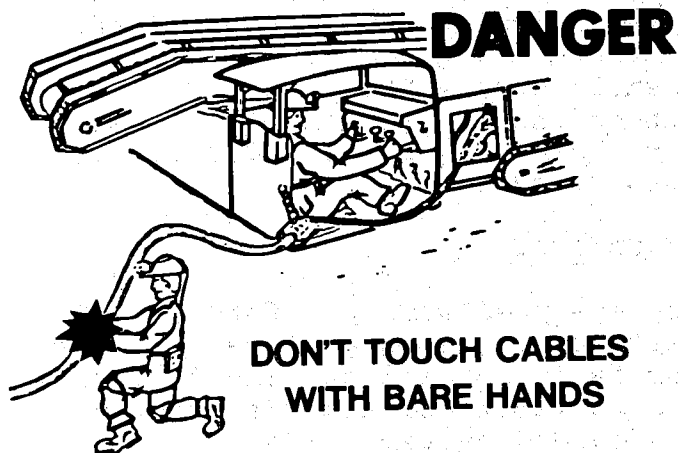
Battery operated equipment should have their frames connected to the battery charger safety grounding system during charging operations.

Remote loads of portable or mobile generators should have safety grounding conductors connected between the load and generator frame.

Hand-held electric equipment should have exposed metallic parts connected to the safety grounding system unless it is battery operated or is approved as being double-insulated by agencies such as the Underwriter's Laboratory.

On direct current equipment, the safety grounding conductor should be connected between the frames of the equipment and the grounded point of the direct current power source.

Testing of the grounding system should be done upon installation and when repairs or modifications are made to the grounding system. Testing should include continuity tests, resistance tests at the connection point to earth and for large voltage sources (500 kilovolt amperes or larger) tests for impedance and maximum fault current flow into the system. The complete safety grounding system should be tested on a regular basis, preferably at least annually.



ELECTRICAL CURRENT

(MILLIAMPERES)

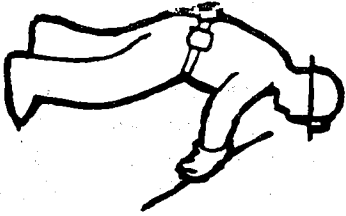
100-

50-

20-

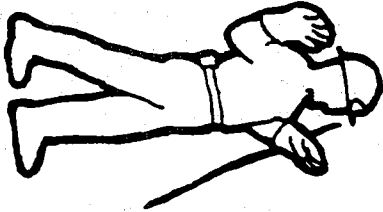
8-
5-

Feel Nothing



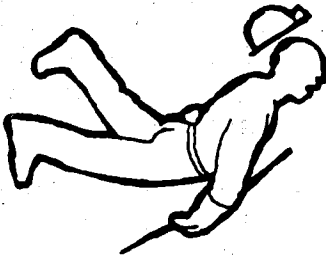
SAFE

Muscle Control
Not Affected



SLIGHT
SHOCK

Unable to Let
Go of Wire



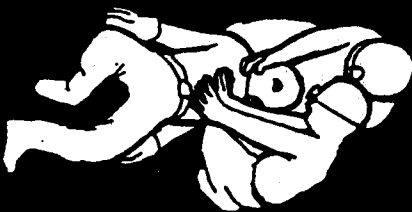
PAINFUL
SHOCK

Respiratory
System
Paralyzed
Breathing
Difficult



VERY PAINFUL
SHOCK

Heart Stops.
Immediate CPR
Necessary.
Severe Burns



USUALLY
FATAL SHOCK

SEVERITY OF SHOCK



September 1984



HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Safety is -U-

Pick a day . . . any day . . . Today! Why not today? Plan your moves today. Figure which will be the safest way possible to accomplish the job you are about to do then do it that way. Make adjustments as you progress, if necessary, to eliminate any possibility of being injured.

If some of us carried a little pocket notebook and listed each and every unsafe act, each infraction of the safety rules, all Federal, State and local law violations, by the end of the day our notebook would be filled. In reading over the notebook, you would probably be amazed and wonder how you managed to live through it all and come out in one piece.

Why do we do this? Not because to err is human. Not because there is no better way. Not because we can't see the hazards around us. It is often because we think safety is for other people. We don't listen too well when attending safety meetings because we think the speaker is talking to or about someone else. We are not yet believers because we think accidents happen to the other person and not to us.

How do you convince someone who has both feet that there are precautions that must be taken while working around heavy equipment to protect them?

How many of us wear goggles or eyeshields when doing work that requires them? The odds are in your favor that no harm will come to you, but must you play the odds? Why not wear protection and eliminate the hazard?

Let's start today! Take inventory of your duties. In what way can you make them safer? Remember familiarity breeds contempt. The better you think you know your job, the more chances you take because you feel you can handle the situation.

Today is the day to start yourself a new safety program.
TODAY!! BEFORE THE INJURY--DO THE WORK SAFELY AND THERE WILL BE NO INJURY!

September 1984



Recreational Safety

COMING BACK ALIVE

POST-VACATION SAFETY

Even a short time away from the job is sufficient to cause us to momentarily forget routine safety procedures involved in the many duties we perform during a work day. So, let's keep our minds on our work and what we must do to safely perform it.

In addition to concentrating on the immediate task at hand, we must make effective inspections of all work areas and equipment with which we work. Two weeks is more than sufficient time for overburden pressures to cause changes in roof and rib conditions. Two weeks of idleness can certainly contribute to the malfunctioning of equipment.

CHECK LIST:

MOTORMAN: Have each motorman inspect the following: locomotive, sand, lights and brakes. Check for proper operation of all controls. Run the locomotive, if possible, for short distances back and forth, testing controls and brakes. Observe track condition.

CONTINUOUS-MINER OPERATOR: Make face test -- roof - ribs - face-roof support - gas and ventilation. Check miner for: oil level - cable - all electrical circuits that are visible. Check the operation of the boom (swing and lift) - cat controls (forward and backward) - fire extinguisher - gathering arms and conveyor chains - sprays.

SECTION MECHANIC: Check power distribution box and/or nip station. Check cable boxes and all ground connections. Check fuses. As soon as possible check trailing cable and other items involved in permissibility. Check all fire extinguishers.

SHUTTLE-CAR OPERATOR: Check car for: Operator cab cleanliness - visual check of entire car (look for broken hydraulic hoses) - oil level - all controls - brakes - cables - steering - lights - tires - signals - fire extinguishers - cable reel. Drive car before loading begins, making sure that conveyor chains run and that discharge boom will raise and lower. Visually check roof and ribs along active roadways. Report dry roadways. Check for wheel blocks.

ROOF BOLTERS: Make face test - roofs - ribs - face - safety support and ventilation. Check compressor - oil level, tires, cable, fire extinguisher. Manually operate controls to insure that they are in "OFF" position. Apply power, use the brakes, check the steering, check the rotation of the drill and test the impact wrench and dust collector. Is a torque wrench available?

-MORE-

SHOT FIRER: Check magazines - note condition of powder and caps. Check shooting battery, powder bag, cap box, equipment - tamping stick, shooting cable, powder punch. Make face test - roof - ribs - face - timbers - and gas, before tamping takes place.

TIMBERSETTER AND BRATTICEMAN: Make face test - roof, ribs, face, timber. Check roadways for loose timbers, missing timbers, loose top and ribs. Check curtain strips for protruding nails. Check curtains and line brattice. Check clearance behind brattice. Inspect for dry roadways.

Council News

The National Council is currently considering establishing a nationwide safety competition among the district councils. Awards would be presented at the Holmes Safety Association annual meeting in Arlington, Virginia, based on the best incident rate for surface and underground mines.

Council officers and secretaries of those councils wishing to participate would be responsible for calculating the incident rates for their councils and supplying this information to the National Secretary.

A criteria for granting awards based on review of the fatal and lost-time disabling incident experience of the various segments of the mineral extractive industries has to be established, therefore, we need your input and opinions.

Any suggestions council officers have on this are appreciated. Please call or write the National Secretary.



Hats off to the Gauley District Council for such an outstanding news bulletin. The bulletin contains very informative and pertinent information.

HOLMES SAFETY ASSOCIATION

CONSTITUTION

HOLMES SAFETY ASSOCIATION

OBJECTIVES

SECTION 1. THE OBJECTIVES OF THE HOLMES SAFETY ASSOCIATION SHALL BE TO ARRANGE AND HOLD SAFETY MEETINGS, CONDUCT SAFETY CAMPAIGNS, AND PROVIDE FOR ORGANIZED COOPERATIVE EFFORT TO ENCOURAGE:

- (A) THE PREVENTION OF FATALITIES AND INJURIES AND THE IMPROVEMENT OF THE HEALTH CONDITIONS OF ALL PERSONS CONNECTED WITH MINING, METALLURGICAL, PETROLEUM, NATURAL GAS, QUARRYING, AND ALLIED INDUSTRIES WHETHER AT WORK, IN AND ABOUT THEIR HOMES, ON PUBLIC HIGHWAYS, OR IN PUBLIC PLACES.
- (B) THE DISSEMINATION OF INFORMATION AND INSTRUCTION ON SUBJECTS RELATED TO THE PROMOTION OF HEALTH AND SAFETY AND THE PREVENTION OF PLANT OR MINE FIRES, EXPLOSIONS, OR DISASTERS FROM OTHER CAUSES.
- (C) THE PROMOTION OF TRAINING IN FIRST AID, SELF-CONTAINED BREATHING APPARATUS, AND OTHER FORMS OF PROTECTION IN RESCUE AND RECOVERY OPERATIONS.
- (D) THE CLOSEST COOPERATIVE RELATIONS WITH EXISTING ORGANIZATIONS, INCLUDING LABOR, MANAGEMENT, AND STATE AND FEDERAL AGENCIES THAT PROMOTE HEALTH AND SAFETY IN THE MINERAL AND ALLIED INDUSTRIES.
- (E) THE PROMOTION OF EDUCATIONAL, SOCIAL AND RECREATIONAL ACTIVITIES IN THE MINERAL AND ALLIED INDUSTRIES, INCLUDING COOPERATION WITH LOCAL AND STATE SCHOOL AUTHORITIES, AND OTHER INSTITUTIONS IN THE ADVANCEMENT OF HEALTH AND SAFETY EDUCATION.

The Last Word

ON THE JOB OR OFF--- WHICH IS THE SAFEST PLACE?

If you become frightened over the possibility of working far below the surface of the earth, as miners do, then safety conditions on highways and in homes should be even more alarming. According to national figures, there are at least three times as many accidents off the job as there are in industry.

One reason for fewer industrial accidents is that employees recognize hazards and follow safe practices. These rules apply on the road and at home but you must first recognize dangers.

* * * * *

The old prospector came down out of the hills for the first time in years and died when he saw his first automobile. He didn't see it soon enough.

* * * * *

A. J. Foyt, Indianapolis 500 winner, on the hazards of auto racing: "I know I feel safer on a racetrack with the traffic going in the same direction and good drivers behind the wheels than I do on Houston (Texas) expressways."

OLDER DRIVERS NEED TWICE AS MUCH LIGHT AT NIGHT

You see less at night and so do other drivers. Vision studies prove that your sight distance shrinks the faster you go. At 20 m.p.h. a driver can see and identify objects 80 feet further away than at 60 m.p.h. This narrowing and shortening of the visual field, plus the efficiency of the headlights, plus your stopping distance all determine your safe speed at night.

Your eyes play tricks at night. For example, you can see an expected or familiar object much further away than an unexpected one.

Periodic vision checks are essential as you grow older. The average 55-year old driver with 20/20 vision needs twice as much light as the 20-year old with the same visual rating. Visual defects are exaggerated at night. IN TODAY'S TRAFFIC, SMALL ERRORS CAN MAKE THE DIFFERENCE BETWEEN LIFE AND DEATH.

WORST RECORD

Percentagewise, Kansas City, Missouri, had an unsurpassable automobile accident record in 1899. There were only two cars in the city at the time and they collided in the main street.



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U.S. Department of Labor

LAB 441

MSHA, Office of Holmes
Safety Association
Educational Policy & Development
P.O. Box 25367
Denver, Colorado 80225

5000-22
(Rev. 12-78)



HOLMES SAFETY ASSOCIATION
MEETING REPORT FORM

For the month of _____

TOTAL meetings held this month _____

TOTAL attendance this month _____

Chapter Number _____ (See address label, if incorrect, please indicate change.)

(Telephone No.)

(Signature)

(Title)

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For uninterrupted delivery, please include any change of address below: